

U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
Special Permit Analysis and Findings

Special Permit Information:

Docket Number: PHMSA-2017-0090
Requested By: National Fuel Gas Supply Corporation
Operator ID#: 13063
Original Date Requested: July 28, 2017
Original Issuance Date: August 27, 2019
Effective Dates: August 27, 2019 to August 26, 2029
Code Sections: 49 CFR 192.53, 192.55, 192.105, 192.107, 192.109, 192.111, 192.113, 192.144, 192.149, 192.150, 192.327, 192.463, and 192.619

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA)¹ provides information to describe the facts of the subject special permit application submitted by National Fuel Gas Corporation (NFG), to discuss any relevant public comments received with respect to the application for a special permit, to present the engineering/safety analysis, and to make findings regarding whether the requested special permit should be granted and if so under what conditions. NFG requested a special permit to waive compliance from 49 Code of Federal Regulations (CFR) 192.53, 192.55, 192.105, 192.107, 192.109, 192.111, 192.113, 192.144, 192.149, 192.150, 192.327, 192.463, and 192.619 for one (1) pipeline segment totaling 5.84 miles of 6-inch diameter FM120 Pipeline located in McKean and Elk Counties, Pennsylvania (FM120 Pipeline).

Pipeline System Affected:

The requested special permit is part of a modernization project which allows NFG to use FlexSteel pipe to replace a 12.75-inch diameter, 1950's vintage bare steel pipeline, known as the FM120

¹ Throughout this special permit the usage of "PHMSA" or "PHMSA OPS" means the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration Office of Pipeline Safety.

Pipeline. The new 6-inch diameter FlexSteel will be inserted through the existing 12.75-inch diameter pipeline, which will require significant maintenance and repair to operate in pressurized natural gas service. Use of FlexSteel pipe will reduce excavation, earth disturbance, and other activities associated with removal of the existing 12.75-inch diameter steel pipeline and installation of a new steel pipeline into the right of way.

This special permit with conditions implemented by NFG will allow the use of FlexSteel pipe for this modernization project of the FM120 Pipeline. This special permit will benefit NFG by allowing the replacement of approximately 5.84 miles of the FM120 Pipeline (1950s vintage 12.75-inch diameter bare steel natural gas pipeline) through insertion of 6-inch FlexSteel pipe into the existing 5.84 miles of pipeline. Replacement of the FM120 Pipeline will enhance the reliability and safety for the public and users of the state forest, and gas supply for distribution markets, production, and storage where the pipeline is located. This special permit benefits the public since the insertion process will greatly reduce the earth disturbance and amount of time required to complete the project as compared to the standard direct bury or open trench type of construction.

Special Permit Request:

This special permit is for usage of 6-inch diameter FlexSteel pipe and components inserted within a 12.75-inch diameter casing pipe. FlexSteel pipe is a type of flexible steel pipeline, which is not currently approved by 49 CFR Part 192 for interstate gas transmission pipelines. The special permit applies to the pipe material, design, construction, operations, and maintenance requirements in 49 CFR 192.53, 192.55, 192.105, 192.107, 192.109, 192.111, 192.113, 192.144, 192.149, 192.150, 192.327, 192.463, and 192.619 for one (1) pipeline segment totaling 5.84 miles of 6-inch diameter FlexSteel pipe and components located in gas transmission class 1 and 2 locations.

The applicable 49 CFR Part 192 sections for this special permit are as described below:

Section	Section Title	Review
192.53	General	Sub-paragraph (c) does not recognize flexible steel pipe in meeting the requirements of the Subpart.
192.55	Steel Pipe	(a)(1) There is no listed specification for flexible steel pipe. (a)(2) Qualification requirements are specific to rigid steel pipe and do not apply to flexible steel.
192.105	Design formula for steel pipe	This section does not provide a design formula for flexible steel pipe.
192.107	Yield strength (S) for steel pipe	This section does not provide a design formula for flexible steel pipe and fittings.
192.109	Nominal wall thickness (t) for steel pipe	This section does not address the steel strip reinforcement used in flexible steel pipe.
192.111	Design factor (F) for steel pipe	This section does not provide design factors for flexible steel pipe.
192.113	Longitudinal joint factor (E) for steel pipe	This section does not apply to flexible steel pipe.
192.144	Qualifying metallic components	There is no listed specification for the swaged steel connectors to use with the FlexSteel pipe system.
192.149	Standard fittings	There is no listed specification for the FlexSteel connectors.
192.150	Passage of internal inspection devices	There is no need or value in running an ILI tool since the internal wall of the FlexSteel pipe is thermoplastic instead of steel.
192.327	Cover	The existing 12.75-inch diameter steel pipeline is proposed to be used as a casing for the new 6-inch FlexSteel line. Given that the existing line was installed in the mid-1950's, there are some areas with less than 30-inches to 36-inches of cover. However, the existing steel pipe, will serve as a casing for the FlexSteel line, thereby affording it an additional level of protection from 3 rd party damage and from anticipated wheel loads.
192.463	External corrosion control: Cathodic Protection	This section envisions steel coated or bare pipe and does not contemplate externally HDPE lined steel materials. NFG will insert FlexSteel pipe into the existing 12.75-inch diameter pipeline, which will be cleaned prior to insertion (See section VIII.5.a.v for pipeline cleaning procedure). NFG will direct bury and install a cathodic protection test station and anode in soil at every FlexSteel fitting outside the 12.75-inch diameter casing.
192.619	Maximum allowable operating pressure: Steel or plastic pipelines	This section does not provide a design formula for flexible steel pipe.

PHMSA designed a comprehensive set of special permit conditions that NFG is required to implement in order to operate the 6-inch diameter FM120 Pipeline using FlexSteel pipe and components. An overview of the special permit condition topics is in the Operational Integrity Compliance section of this document. The special permit conditions were based upon pipeline

safety considerations for the Code sections that NFG was seeking relief for an alternative pipe material other than steel pipe.

This special permit applies to the *special permit segment* defined as follows using the NFG FM120 Pipeline survey station references:

- *Special permit segment* – FM120 Pipeline — (30,624 feet or 5.84 miles) Mile Post 0.0 to 5.84;

The *special permit segment* is defined as 5.84 miles of the FM120 Pipeline which is being replaced with a 6-inch diameter FlexSteel pipe inserted into an existing 12.75-inch diameter pipeline. The *special permit segment* is in McKean and Elk Counties, Pennsylvania. The *special permit segment* maximum allowable operating pressure (MAOP) is 720 pounds per square inch gauge (psig).

Public Notice:

On June 26, 2019, PHMSA published the special permit request in the Federal Register (84 FR 30308) and the public comment period ended on July 26, 2019, with all comments received through July 29, 2019, being reviewed and considered. The special permit application from NFG, pipeline route maps, public comments, environmental assessment, and special permit conditions are available in Docket No. PHMSA-2017-0090 at: www.regulations.gov.

PHMSA Overall Response and Considerations of Public Safety Concerns:

PHMSA received no comments on the NFG special permit for the FM120 Pipeline through July 29, 2019.

Operational Integrity Compliance:

PHMSA has reviewed this special permit request to ensure that integrity threats to the pipeline in the *special permit segment* are addressed in the operator's operations and management plan (O&M Procedures and specifications). PHMSA carefully designed a comprehensive set of conditions that NFG is required to implement to operate the FM120 Pipeline with 6-inch diameter FlexSteel pipe.

The special permit conditions are summarized by topics in the below list. The full conditions can be reviewed in their entirety in the special permit:

- 1) NFG must design, operate, and maintain the pipeline in accordance with the following:
 - a. The pipeline must operate at or below a MAOP of 720 psig.
 - b. The pipeline must operate at or below a design factor of 0.24 of the stated product burst rating of 3,000 psig, which is 48% of the product's 1,500 psig manufacturer pressure rating, for all class locations, and road crossings within the *special permit segment*.
- 2) General and Design Requirements
- 3) Material and Testing Requirements
- 4) Construction Operator Qualifications
- 5) Excavation, Pipe Cover, and Damage Prevention
- 6) Corrosion Control
- 7) Pressure and Temperature Control and Monitoring
- 8) Construction and Operations
- 9) Communication and Records
- 10) Gas Quality
- 11) Right-of-Way Management Program
- 12) Annual Reporting
- 13) Certification
- 14) Limitations

Past Enforcement History – 2008 through July 26, 2019:

Since the beginning of 2008 through July 26, 2019, NFG (Operator ID# 13063) has had two (2) enforcement cases for violation of 49 CFR Part 192 (Notices of Probable Violation), four (4) Notices of Amendments, and three (3) Warning Letters. In total, there have been nine (9) enforcement cases against National Fuel Gas Company (Operator ID# 13061, 13062, 13063, 31592, 32506, 32672, 38956, 39034, 39087, 39577) from 2008 through July 26, 2019.

- National Fuel Gas Supply Corp. (13063)
- National Fuel Gas Distribution Corp. (13061)
- National Fuel Gas Distribution Corp. – New York (13062)
- Empire Pipeline, Inc. (31592)
- NFG Midstream Covington, LLC (32506)

- NFG Midstream Trout Run, LLC (32672)
- NFG Midstream Tionesta, LLC (38956)
- NFG Midstream Mt. Jewett, LLC (39034)
- NFG Midstream Clermont, LLC (39087)
- NFG Midstream Wellsboro, LLC (39577)

Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total
CLOSED	0	4	0	0	3	7
OPEN	0	0	2	0	0	2
Total	0	4	2	0	3	9

PHMSA issued a final order in April 2019 related to one of the Notices of Probable Violations (NOPV) assessing a civil penalty of \$53,200. The case related to the second NOPV is still pending.

PHMSA has determined that imposing the conditions and limitations summarized in this document will ensure that granting the special permit for usage of 6-inch diameter FlexSteel pipe on the NFG *special permit segment* will be consistent with safety.

Findings:

Based on the information submitted by NFG and PHMSA’s analysis of technical, operational and safety issues, and given the conditions that will be imposed in the special permit, PHMSA finds that granting this special permit to NFG to operate the *special permit segment* located in McKean and Elk Counties, Pennsylvania with 6-inch diameter FlexSteel pipe will not be inconsistent with pipeline safety.

Completed in Washington DC on: August 27, 2019

Prepared By: PHMSA – Engineering and Research Division